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EXAMINER

SEVER, ANDREW T

ART UNIT PAPER NUMBER

2851

DATE MAILED: 06/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/935,602

Applicant(s)

MENG-SUEN, HUANG

Examiner

Andrew T Sever

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AC

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 24 in Figure 4. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to because crucial parts are not labeled, all parts needed for understanding the invention and for understanding the drawing need to be labeled and explained in the description. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. The disclosure is objected to because of the following informalities:

The detailed description of the invention starting on page 6 of the specification is difficult to follow and possibly fails to mention many parts in the drawings. The description should be amended so that each figure is explained individually, instead of jumping between figures, in order to alleviate the confusion of jumping around. It should be made clear which figure a specific part being referred to is in. It should also be checked to make sure all labeled parts are explained.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

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4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 13 rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specific order of the optical components specified: light source, second aperture, second mirror, first mirror, first aperture, film, and the lens in that order is not supported by the specification. Further it contradicts claim 12, which it is dependent on.

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Hicks (US 3,897,144.)

Hicks teaches in figures 2a and 2b (2b is a side view of a part of 2a), an image projector comprising: a film assembly (3), and a periscope (24 and 25) having a first aperture (5). The film assembly is configured so as to mount a film to scroll in front of said first aperture (5) of said periscope (24 and 25). The image projector is provided with a light source (21) for projecting light through the film and a lens (a known projection lens assembly 11) for focusing the light projected through the film and periscope. Hicks further teaches in column 2 lines 47-51 that the film is contained in a film transport system comprising take-spools (3 and 4) reversibly driven and controlled by motors (not shown) in order to scroll the film in front of the first

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aperture. With regards to claim 20, Hicks in figure 4 teaches movable mirrors 44 and 45, which supplied to scan the film would inherently shift the light path after the light had been projected through the portions of the scrolling film.

*Claim Rejections - 35 USC § 103*

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hicks (US 3,897,144 as applied to claim 1 and 20 above, and further in view of Holloway (US 2,811,892).

Hicks teaches an image projector comprising: a film assembly, and a periscope that has a first aperture. The film assembly is configured so as to mount a film to scroll in front of said first aperture of said periscope. The image projector is provided with a light source for projecting light through the film and a lens for focusing the light projected through the film and periscope. Hicks further teaches that the film is contained in a film transport system comprising take-spools reversibly driven and controlled by motors in order to scroll the film in front of the first aperture. Hicks also teaches in a different embodiment containing all the parts of the previous embodiment; movable mirrors which are supplied to scan the film and would inherently shift the light path after the light had been projected through the portions of the scrolling film. Hicks teaches in figure 2a that the periscope (as defined by the applicant) consists of in this order (and as is claimed by applicant's claims 11, 12, 18, and 19): a first aperture (5, not shown in figure 2a, but rather in figure 2b as explained above), two mirrors 24 and 25 and a 2<sup>nd</sup> aperture

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(18), which also serves to rotate the image if desired or needed to produce the image the user wants to project, and a projection lens 11.

Hicks further teaches in column 2 line 49-53 that the film transport system is a known film transport system. Hicks, however does not specifically teach a continuous film transport system utilizing a plurality of rollers configured to scroll the continuous film around the periscope and in front of the first aperture. Holloway teaches a known film transport system in figure 3. The film 54 is continuous being rejoined to itself at the seam 56. The film is supported by four rollers (46) as is claimed in applicant's claim 6, including one roller (68) that is rotated by a motor (62) and the rollers obviously rotate about a substantially parallel axes that is parallel to the mounting surface (11), as is claimed in applicant's claim 3. The continuous film forms a rectangular enclosure, which inherently requires that the rollers scroll the film in a direction substantially perpendicular to the axes of rotation of the rollers as is claimed in applicant's claim 5. Various optics are included inside of the rectangular container made by the film including a lens (36) and a mirror (26). Holloway, however, does not teach this apparatus for use in a periscope projector, however mirror 26 could easily be substituted with the mirror taught in Hicks (42) which redirects the image light to a different plane then the plane which the light source and film are disposed on, and is a part of the periscope. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the continuous film and driving apparatus taught by Holloway in the periscope based projector taught by Hicks, in order to allow Hicks' projector to project a continuous sequence of images as is taught in applicant's claim 2 and 14. With regards to claim 4, it would be obvious to place the aperture taught by Hicks either in front of the lens (36) or between the lens and the mirror (26)

that are taught by Holloway (which would place the aperture inside the enclosure formed by the scrolling continuous film), this would be done, because Hicks teaches that the aperture is in front of the mirror (42) which is analogous to the mirror (26) taught by Holloway, in Hicks in view of Holloway.

With regards to claims 7 and 15 it was well known in the projector arts and in general in the arts that utilize scrolling films, for example: audio tape players, VCRs, and movie projectors; to have one of the rollers pivotally mounted in the film assembly so as to swing inwardly and outwardly in directions substantially perpendicular to the axes of rotation, and for that roller to be biased by a biasing spring in order to pull the film, when mounted, taut against said plurality of rollers. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to have one (or more) of the rollers pivotally mounted so as to swing inwardly and outwardly in directions substantially perpendicular to the axes of rotation, and for that roller(s) to be biased by a biasing spring in order to pull the film, when mounted, taut against said plurality of rollers.

With regards to claims 8-10, 16 and 17, it was well known in the optical arts to mount the film assembly (or image source) and the projection lens such that the distance between them can be slidingly adjusted so that the path length between them is variable allowing for adjusting such things as focus, and projected image size. With regards to claim 10 Hicks although not showing the motor, teaches that the motor is part of the film assembly and since not having the motor mounted in such a way that it moved with the film assembly would add unneeded complexity, it would have been obvious to one of ordinary skill in the art at the time the invention was made to

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mount the motor in the moving film assembly. With regards to claims 9 and 17, Hicks teaches in figure 23a that the entire projection apparatus is enclosed within a housing, which has walls (15).

With regards to claim 13 as nearly as can be understood. It is well known in the projector arts to utilize a series of mirrors for redirecting the light from the light source to the film or other imaging media, in order to keep the high temperature light source and thus its heat away from temperature sensitive components like film and liquid crystal light valves. One such well known way of doing this is to mount the components in the following order: light source, aperture to insure a uniform beam of light having a desired shape and size, a first and second mirror, a second aperture, the film, and then a projection lens.




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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T Sever whose telephone number is 703-305-4036. The examiner can normally be reached M-F 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russell Adams can be reached at 703-308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3431 for regular communications and 703-308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

AS  
June 6, 2002

  
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